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10/091,590	03/07/2002	Mendel Menachem Reinshmidt	REINSHMIDT=1	7677

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EXAMINER	
WONG, WARNER	
ART UNIT	**PAPER NUMBER**
2668	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/091,590	REINSHMIDT ET AL.	
	Examiner	Art Unit	
	Warner Wong	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18, 22-42 and 46* is/are pending in the application.

4a) Of the above claim(s) *19-21 and 43-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,22-41 and 46* is/are rejected.

7)☒ Claim(s) *18 and 42* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/7/02* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the word "destination" is misspelled at two instances in fig. 8.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

2. The disclosure is objected to because of the following informalities: On page 16, last paragraph, 2nd sentence: the word "preselected" is misspelled. It is suggested that the entire specification be spell-checked.

Appropriate correction is required.

Claim Objections

The following claims objected to because of the following informalities:

3. Claim 17, line 2, the limitations "a source node" and "a destination node" appears to be referring to the corresponding limitations "a source node" and "a destination node" described in claim 1, lines 4-5 respectively. They should be changed to "the source node" and "the destination node" respectively.

4. Claim 19, lines 8: the limitation "a Router" appears to be referring to the same limitation as specified in claim 17, line 3. It should be changed to "said Router".

5. Claim 43, lines 8: the limitation "a Router" appears to be referring to the same limitation as specified in claim 41, line 3. It should be changed to "said Router".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1, lines 11: the limitation "the packet transportation parameters" lacks antecedent basis. It should be corrected to "packet transportation parameters".

7. Claim 17, line 4: the limitation "the inherent Internet's backbone Routers" lacks antecedent basis. It should be written as "inherent Internet's backbone Routers".

8. Claim 24, lines 15: the limitation "said packet transportation parameters" lacks antecedent basis. It should be corrected to "packet transportation parameters".

9. Claim 42, line 4: the limitation "the inherent Internet's backbone Routers" lacks antecedent basis. It should be written as "inherent Internet's backbone Routers".

10. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "does/does not contain" renders the claim vague since its intended memory can not be ascertained.

11. Claims 19-20 are objected to under 37 CFR 1.75(c) as being in improper form because each multiple dependent claim refers to two claims in the conjunctive ("17" and "18") rather than in the alternative ("17" or "18"). See MPEP § 608.01(n). Accordingly, claims 19-20 have not been further treated on the merits.

12. Claim 21 is objected to under 37 CFR 1.75(c) as being in improper form because this multiple dependent claim refers to three claims in the conjunctive ("17", "19" and "20") rather than in the alternative ("17", "19" and "20").

In addition, the multiple dependent claim depends on claims 17, 19 and 20, where claim 20 is already a multiple dependent claim. See MPEP § 608.01(n). Accordingly, claim 21 has not been further treated on the merits.

13. Claim 43-44 are objected to under 37 CFR 1.75(c) as being in improper form because each multiple dependent claim refers to two claims in the conjunctive ("41" and "42") rather than in the alternative ("41" or "42"). See MPEP § 608.01(n). Accordingly, claims 43-44 have not been further treated on the merits.

14. Claim 45 is objected to under 37 CFR 1.75(c) as being in improper form because the multiple dependent claim refers to two claims in the conjunctive ("41" and "43") rather than in the alternative ("41" or "43").

In addition, the multiple dependent claim depends on claims 41 and 43, where claim 43 is already a multiple dependent claim. See MPEP § 608.01(n). Accordingly, claim 45 has not been further treated on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1-3, 5-8, 10, 12-15, 17, 23-26, 28-31, 33, 35-38, 41 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciulli (6,275,470), Apostolopoulos (6,868,083) and RFC 1702.

Regarding claim 1, Ricciulli describes a method for improving a quality of transportation of selected data packets over a data network (col. 3, lines 25-28), comprising:

a) determining selected nodes as access points to said data network, each of which may be a source node from which said selected data packets can be transmitted, or a destination node to which said selected data packets can be intended (fig. 1, source & destination nodes #100 & 160, and col. 3, lines 41-43);

b) selecting one or more intermediate (overlay) nodes, for generating a plurality of alternative paths, between said source node and said destination node, each one of said alternative paths consists of segments and includes one or more intermediate node(s), for routing said selected data packets (col. 3, lines 50-53 and col. 4, lines 10-13, where the overlay nodes select intermediate paths);

c) periodically testing the packet transportation parameters in the segments of each preselected path along said preselected paths destined by different intermediate nodes (fig. 2,), each time by sending a plurality of test packets from said source node to said destination node, the pinging addresses of which are known to said source node (fig. 2 #225 and col. 4, lines 33-42, where it is inherent that each overlay path's address is known because it uses the existing transmission lines/infrastructure with routers to ping known destinations to retrieve the cost metrics).

d) defining one or more optimal paths, being selected from said alternative paths, for delivering said selected data packets from said source node to said destination node according to said tested transportation parameters (col. 5, lines 35-38, packet delay) and optionally, also according to predefined parameters (col. 5, lines 35-38, packet loss) characterizing said segments by selecting a combination of segments, connected to nodes, and having the optimal tested transportation parameters and/or predefined parameters, that connects said source node to said destination node (col. 4, lines 38-42);

f) forwarding each selected test/data packets from said source node to said destination node along said optimal path(s) (fig. 2, #250);

f.4) repeating steps f.1) to f.3) for all intermediate nodes until said destination node (in conjunction with Ricculi, fig. 5, arrow from #525 to #510);

g) at the destination node, removing a modified header from said selected data packet and using its original header (fig. 5, #530 and col. 8, lines 28-31).

With respect to claim 1, Ricciulli lack what Apostolopoulos describes:

e) for each selected data packet, generating a modified header containing a sequence of consecutive addresses that correspond to consecutive nodes along an optimal path, and attaching said modified header to said selected data packet (fig. 5 and col. 8, lines 40-42) for the purpose of definitively providing a reliable communication path between the sender and the receiver.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to incorporate the modified header method of Apostolopoulos

to Ricciulli's overall method. The motivation is that by using a method with an exact path in the header of the packet, it definitively provides a reliable communication path between the sender and the receiver (Apostolopoulos, col. 2, lines 12-16).

With respect to claim 1, Ricciulli and Apostolopoulos combined still lacks what RFC 1702 specifically describes:

at each intermediate node, along said optimal path, starting from the source:

f. 1) processing said modified header; **f. 2)** extracting the address that corresponds to the next consecutive intermediate node; and **f. 3)** forwarding said selected data packet from said intermediate node to its consecutive intermediate node using the extracted address (p. 2, "When a system is processing a SRE with an Address Family indicating an IP source route, it MUST use the SRE Offset to determine the next destination IP address.. If the source route is a strict source route and the next IP destination is NOT an adjacent system, the packet MUST be dropped. Otherwise, the system should use the IP address indicated by the Offset field to replace the destination address in the delivery header and forward the packet."). The purpose of the such teaching is for the industry to conform to RFC 2705 standard so that it may be compatible with other RFC 2705 standard compatible apparatuses.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to combine the RFC's teaching of header processing and packet forwarding into the method of Ricciulli and Apostolopoulos. The motivation is that it conforms to RFC 2705 standard so that it may be compatible with other RFC 2705 standard compatible apparatuses).

Regarding claim 24, Ricciulli describes a network having improved quality of transportation of selected data packets ((col. 3, lines 25-28), comprising:

a) a plurality of nodes being access points to said data network, each of which may be a source from which said selected data packets can be sent, or a destination to which said selected data packets can be intended (fig. 1, source & destination nodes #100 & 160 and col. 3, lines 41-43);

b) a plurality of intermediate (overlay) nodes between said source and said destination, for generating a plurality of alternative paths, consisting of segments, for routing said selected data packets (col. 3,lines 50-53 and col. 4, lines 10-13, where the overlay nodes select intermediate paths);

c) at one or more nodes and/or intermediate nodes, circuitry (col. 3, lines 67, PC's) for sending a plurality of test packets from said source to said destination (pinging), along said preselected different paths defined by different intermediate nodes and their corresponding interconnecting segments (fig. 2 #225 and col. 4, lines 33-42);

d) processing means for defining one or more optimal paths for delivering said selected data packets from said source to said destination according to said transportation parameters (col. 5, lines 35-38, packet delay) and optionally, also according to predefined parameters characterizing said segments (col. 5, lines 35-38, packet loss), and for selecting a combination of segments, connected to nodes, and having the optimal sampled transportation parameters and/or predefined parameters, that connect said source to said destination (col. 4, lines 38-42);

g) at the destination node, processing means for removing a modified header from said selected data packet and for obtaining the original header of said selected data packet (fig. 5, #530 and col. 8, lines 28-31).

With respect to claim 24, Ricciulli lack what Apostolopoulos describes:

e) at each source, processing means for generating a modified header, for each selected data packet, that contains a sequence of consecutive addresses that correspond to consecutive nodes along an optimal path and attaching said modified header to said selected data packet (fig. 5 and col. 8, lines 40-42) for the purpose of definitively providing a reliable communication path between the sender and the receiver.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to incorporate the modified header method of Apostolopoulos to Ricciulli's overall method. The motivation is that by using a method with an exact path in the header of the packet, it definitively provides a reliable communication path between the sender and the receiver (Apostolopoulos, col. 2, lines 12-16).

With respect to claim 24, Ricciulli and Apostolopoulos lack what RFC 1702 specifically describes:

f) at each node along said optimal path, starting from the source (i.e. system that process the SRE); **f.1)** processing means for processing said modified header and for extracting the address that corresponds to the next consecutive node; and **f.2)** circuitry for forwarding said selected data packet from said node to its consecutive node along said optimal path using the extracted address (in conjunction with Ricculi, fig. 5, arrow

from #525 to #510) (p. 2, "When a system is processing a SRE with an Address Family indicating an IP source route, it MUST use the SRE Offset to determine the next destination IP address.. If the source route is a strict source route and the next IP destination is NOT an adjacent system, the packet MUST be dropped. Otherwise, the system should use the IP address indicated by the Offset field to replace the destination address in the delivery header and forward the packet."). The purpose of such teaching is for the industry to conform to RFC 2705 standard so that it may be compatible with other RFC 2705 standard compatible apparatuses.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to incorporate the detail procedure of using source routing as specified in RFC1702 the combined apparatus of Ricciulli and Apostolopoulos. The motivation is that it conforms to the RFC 2705 standard so that it may be compatible with other RFC 2705 standard compatible apparatuses).

Regarding claims 2 and 25, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 24 respectively. Ricciulli further discloses that the data network is the Internet (col. 3, lines 41-43).

Regarding claims 3 and 26, Ricciulli, Apostolopoulos and RFC1702 combined disclose all limitations set forth in claims 1 and 24 respectively. Ricciulli further discloses that one or more nodes are used as intermediate nodes (fig. 1, #130[a..n] & 140[a..n]).

Regarding claims 5 an 28, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 24 respectively. Ricciulli further

discloses the transportation parameter may be the delay time of data packets from source to destination (col. 5, lines 35-38, packet delay).

Regarding claims 6 and 29, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 29 respectively. Apostolopoulos further discloses that the data is concurrently delivered from a source node to a destination node over several different paths (col. 12, lines 52-57) for the purpose of fault tolerance.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to incorporate the concurrent transmission of Apostolopoulos to the method of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that it provides fault tolerance in case one route should fail (Apostolopoulos, col. 12, lines 24-30).

Regarding claims 7 and 30, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 30 respectively. Apostolopoulos further discloses that the selection of connection/path between the source (sender) and destination (receiver) to transmit data uses a weighted distribution (QOS) (col. 11, lines 31-36) for the purpose of attaining necessary QOS requirements in transmission.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to select paths using weighted QOS distribution of Apostolopoulos in the method of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that this allows the system to attain the necessary QOS requirements in transmission.

Regarding claims 8 and 31, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 7 and 30 respectively. Apostolopoulos further discloses that the selection of connection/path between the source (sender) and destination (receiver) to transmit data is according to the path's weighted distribution (QOS) (Apostolopoulos, col. 11, lines 31-36) for the purpose of attaining necessary QOS requirements in transmission.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to select paths using weighted QOS distribution of Apostolopoulos in the method of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that this allows the system to attain the necessary QOS requirements in transmission.

Regarding claims 10 and 33, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 24 respectively. Apostolopoulos further describes:

a) dynamically varying the definition of each optimal path from the source node to the destination node according to the testing results, and b) whenever a new optimal path is defined, continuing sending data packets from said source node to said destination node over said new optimal path (col. 9, lines 22-29) for the purpose of providing the most reliable communication between a sender and a receiver during a connection.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to vary and use new optimal path(s) during a connection as

described by Apostolopoulos in the method/system of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that this provides the most reliable communication between a sender and a receiver during a connection (Apostolopoulos, col. 2, lines 12-15).

Regarding claims 12 and 35, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 24 respectively. Ricciulli further discloses the predefined parameter may be the cost [of packet loss] (col. 5, lines 35-38, cost of packet loss, e.g. from using a lower QOS link).

Regarding claims 13 and 36, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claim 1 and 24 respectively. Apostolopoulos further describes:

a QOS grade is assigned to each alternative path according to the type of data packets to be sent from the source node to the destination node (col. 6, lines 11-16, where the subsets of packets with a designated QOS are assigned to paths with corresponding QOS) for the purpose of attaining necessary QOS requirements in transmission.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to select paths using weighted QOS distribution of Apostolopoulos in the method of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that this allows the system to attain the necessary QOS requirements in transmission.

Regarding claims 14 and 37, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 13 and 36 respectively. Apostolopoulos further describes:

dynamically varying the QOS grade of at least one optimal path according to the type of data packets to be sent from the source node to the destination node (col. 11, lines 19-24 and 31-36, where the parameters are changed during the connection) for the purpose of attaining necessary QOS requirements in transmission.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to select paths using weighted QOS distribution of Apostolopoulos in the method of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that this allows the system to attain the necessary QOS requirements in transmission.

Regarding claims 15, 38 and 39, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 13 and 36 respectively. Apostolopoulos further describes:

packets of an application, of type data, voice, video, or multimedia, are sent from the source node to the destination node through one or more optimal paths being optima l for the corresponding application type (col. 4,lines 9-13, where text is equivalent to data) for the purpose of supporting multiple services.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify the multiple support of data, voice, video, and

multimedia of Apostolopoulos in the method/system of Ricciulli, Apostolopoulos and RFC 1702. The motivation is that this increases the flexibility of the system in its use.

Regarding claims 17 and 41, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1. Ricciulli, Apostolopoulos and RFC 1702 combined further describes:

each optimal path for packets sent between a source node and a destination node includes only one intermediate Internet backbone router, where the router address known to the source node, by generating in the source node a modified header according to a first Header Modification Rule (HMR) (fig. 5 and col. 8, lines 40-42, where the intermediate nodes can be internet backbone routers and the originating headers are modified by the source routing process/rule.)

Regarding claim 22, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1. Ricciulli, Apostolopoulos and RFC 1702 combined further describes:

A source/destination node may be utilized as intermediate node for other source destination nodes (Ricciulli, fig. 1, where the first and last overlay nodes #130a & #130n may be regarded as source and destination nodes which is utilized as intermediate nodes by other source/destination #100 & #160).

Regarding claims 23 and 46, Ricciulli, Apostolopoulos and RFC 1702 combined disclose all limitations set forth in claims 1 and 24 respectively. Ricciulli, Apostolopoulos and RFC 1702 combined further describes:

the preselected alternative paths may include a default path which allows transferring data between the source node and the destination node by utilizing the conventional IP path/route (using standard IP-based software) (Ricciulli, fig. 2 #210 & #260, and col. 4, lines 49-52).

16. **Claims 9 and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciulli in view of Apostolopoulos and RFC 1705 as applied to claims 4 and 27 above respectively, and further in view of Brendel (6,587,438).

Ricciulli, Apostolopoulos and RFC 1705 combined lack what Brendel discloses: the definition of optimal path is carried out by measuring and storing the time of arrival of test packets through different paths form the source node to the destination node (col. 3, lines 29-36 and 47-50) for the purpose of choosing the fastest path for a new connection between a server and a client.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use the method of measuring and storing test packets arrival time of Brendel to the combined method of Ricciulli, Apostolopoulos and RFC 1705. The motivation is that "It is further desired to measure delays for multiple paths to a single client and to choose the fastest path for a new connection between a server and a client", Brendel, col. 3, lines 23-25.

17. **Claims 11 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciulli in view of Apostolopoulos and RFC 1705 as applied to claims 1 and 24 above respectively, and further in view of Nemirovsky (5,253,161).

Ricciulli, Apostolopoulos and RFC1705 lack what Nemirovsky describes:

the optimal path may consists of direct connection between the source node and the destination node (col. 1, lines 47-55, where the direct connection path is a path with no (minimum # of) hops, which is used to determine as the optimal path) for the purpose of determining the most efficient transmission.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use a path that is of a direct connection (no hops). The motivation is that a direction connection yields the most efficient transmission between two points (Nemirovsky, col. 1, lines 13-16).

18. **Claims 16 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciulli in view of Apostolopoulos and RFC 1705 as applied to claims 13 and 36 above respectively, and further in view of Gray (6,862,618).

Ricciulli and Apostolopoulos combined lacks what Gray describe:

[means to] splitting the transportation of data packets from the source node to the destination node between two or more optimal paths, such that more transportation is directed to, and distributed between, optimal paths having higher grades (rate and quality) than the remaining optimal paths, and less transportation is directed to, and distributed between said remaining optimal paths (col. 6, lines 10-16, where rate at

which packets are provided to transmitting links are proportional to the quality of the link) for the purpose of may increasing the transmission efficiency when multiple transmitting paths/links are used.

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to distribute the packet transmission proportionally according to the rate and quality of the multiple transmitting paths/links. The motivation is that this may increase the transmission efficiency when multiple transmitting paths/links are used (Gray, col. 5, lines 58-61).

19. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciulli in view of Apostolopoulos and RFC 1705 as applied to claim 24 above, and further in view of Ranganathan (5,931,961).

Ricciulli, Apostolopoulos and RFC 1705 lack what Ranganathan describes: the test packet does not contain a payload (fig. 7, #730 and col. 9, lines 39-43, where a null packet is a packet without payload) for the purpose of being more acceptable for testing the transmission path between the source and destination

Thus, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use a test packet that does not contain a payload in the system described by Ricciulli, Apostolopoulos and RFC 1705 combined. The motivation is that smaller test packets (with no payload) are more acceptable for testing the transmission path between the source and destination (col. 2, lines 20-22 and 26-30).

Allowable Subject Matter

20. Claims 17-18 and 41-42 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Host (6,907,000), Grenot (6,853,619), Narvaz-Guarnieri (6,347,078) and Smith (6,934,258).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 5:30AM - 2:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3055. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Warner Wong
Examiner
Art Unit 2668

WW

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600